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# Public Health Reports

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Prevalence of Disabling Illness, February 1949

Milk Sanitation Ratings



**FEDERAL SECURITY AGENCY**

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**PUBLIC HEALTH SERVICE**

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# Public Health Reports

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## Estimates of Disabling Illness Prevalence in the United States

Based on the February 1949 Current Population Survey

By THEODORE D. WOOLSEY\*

Several questions relating to disabling illness among persons from 14 to 64 years of age were added to the schedule of the Census Bureau's Current Population Survey in February 1949. These questions were designed to get an estimate of the number of persons between those ages in the civilian noninstitutional population who, on the day of enumeration, were unable to do their regular work or other duties because of illness or a disabling condition<sup>1</sup> or who had a long-term physical or mental condition that allowed them to work only occasionally or not at all.

It had been 13 years since statistics on the prevalence of disabling illness had been obtained for a large sample of the urban population in the National Health Survey (1). And it had been 6 years since the Social Security Board had used the Census Bureau sample to obtain the number of persons "unable to engage in ordinary activities for 1 day or more last week because of illness, injury, or physical or mental disability" (2).

Very few surveys in the United States have been of national scope or specifically planned to provide estimates of the amount of disabling illness prevailing in the country on the particular day of the canvass. Such surveys must almost of necessity be extensive rather than intensive, that is, they must sacrifice detailed questions and elaborate integration of interview results with data from other local sources, such as physicians, hospitals, and clinics, in order to gain the wide-

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<sup>1</sup> "Disabling condition," as used here and elsewhere in this report, is distinguished from disabling illness only in that the former prevents the person from working or carrying on his or her usual activities without currently causing illness in the ordinary sense.

spread coverage needed in a sample designed to be representative of the entire country.<sup>2</sup> Hence, for a more complete as well as a more accurate knowledge of the amount and distribution of illness in the general population, both extensive and intensive surveys are required. The information from each type is essential to a proper understanding of the other.

The February 1949 survey was definitely not intensive. Owing to the unavoidable limitations in the number of questions that can be added to the Census Bureau schedule for any one monthly survey, it was impossible to obtain any break-down of the total amount of disabling illness by type. On the other hand, it was the first survey since the National Health Survey of 1935-36 and the Social Security Board survey of 1943 that could provide national estimates of the prevalence of disabling illness by age, race, and sex. As such it was exceedingly useful in bringing our knowledge of these important figures up-to-date. Some limited comparisons between this survey and the National Health Survey will be found in the appendix.

### The Schedule

The schedule to which questions were added in February is that used by the Census Bureau each month to collect statistics on the size and composition of the labor force. For this reason in its usual form it applies only to persons in the population who are 14 years of age or over.<sup>3</sup> The concept of disability is somewhat less objective for children and for persons 65 years of age and over. Hence, the questions on disabling illness were limited to persons from 14 to 64 years, inclusive. Personal details on these individuals were already available on the schedule, including age, sex, race, veteran status (World War II only), and occupation. For the purposes of the survey of disabling illness, marital status of women was added to the items collected for tabulation. Of course, the employment status of each individual was also available because of the questions that form the main body of the schedule. Furthermore, there is each month a question designed to ascertain the number of persons who are "unable to work," that is, who should not be considered a part of the labor force<sup>4</sup> owing to a "long-term physical or mental illness or disability" which prevents them from doing any kind of work and which is expected to continue to prevent them from working for at least 6 months.

<sup>2</sup> The National Health Survey might be considered an exception to this generalization. The schedule was quite detailed and a large subsample of the diagnoses was checked back with the physician in attendance, and yet it was certainly extensive in its scope, being deficient only in its coverage of rural areas.

<sup>3</sup> The survey is also used at times to determine other characteristics of the population such as educational attainment, housing, income, migration, and so forth.

<sup>4</sup> The civilian labor force is defined to include all persons 14 years of age and over who, in the week prior to the interview, were (a) working, (b) not working but looking for work, or (c) not working or looking for work but with a job or business from which they were absent all week.



All the regular questions on the schedule relate to the last calendar week prior to the interview while the disability questions referred to the actual day of interview.

The interviewers were instructed to ask the first two supplementary questions on disabling illness in exactly the following words: "This month we are making a study of illness and disability. First of all I'd like to check the persons who aren't able to do their regular work or other duties today because of illness or disability."

Then, after recording this information: "Is there anyone else under 65 years of age with a physical or mental condition that allows him to work only occasionally or not at all?"

These questions were supported by careful instructions to the interviewers explaining the objectives of each question and giving examples of types of persons who should and should not be included.

For each person under 65 years of age who was recorded as a result of these two questions as unable to work or carry on usual activities or who had been previously recorded on the regular part of the schedule as being "unable to work," the duration of disability prior to the day of interview was determined and also whether he or she was working (for pay or profit or without pay on a family farm or business) before becoming disabled. This last item of information has not been utilized in the tables presented here, but it was included in the basic tabulations.

In tabulating the results no attention was paid to which question of the three mentioned was responsible for a person's inclusion in the category of "disabled on the day of visit." It was felt that, while some might have been ill in the ordinary sense and others might have been incapacitated by some physical or mental condition that prevented them from working but did not make them ill, not all of those in any one category would necessarily be picked up by the same question. The different questions served rather as a net to take in all persons who were disabled according to the definition cited at the beginning of this report.

In household surveys of this sort the wording of questions on disabling illness, and, in fact, the wording of any questions, even on matters that appear to be most objective, is of great importance. It was anticipated in planning the present survey that the planners' concept of disability would not entirely correspond with that which the household informant had in mind when giving the answers. The intention was to include as disabled not only those who were unable to work or to carry out their regular activities on the day of visit because of illness in the ordinary sense of that word but also those who, though not ill, had a residual condition, such as paralysis or loss of limbs, that completely prevented them from working or at least made it impossible for them to hold even a regular part-time job. And it

was intended that the duration given should be the continuous period of time, measuring backward from the day of visit, that the individual had been unable to work or unable to hold even a regular part-time job owing to this illness or condition. To give two illustrations: (1) A totally blind person who regularly sold pencils for a few hours each day at a street corner was not to be considered disabled; (2) if a person, afflicted with heart disease for the last 10 years but able to keep his job, was unable to go to his work for the last 3 weeks because of a period of heart decompensation, he was to be considered as disabled, and the duration was to be taken as 3 weeks and *not* as 10 years.

Despite the precautions taken in wording the questions and in instructing the interviewers, there were some instances when persons recorded as having been disabled for a year or more had done 20 or 30 hours of work the previous week, and other instances when persons reported to have been disabled 10 years or more still classified themselves as employed. Neither of these is necessarily inconsistent with the definition, but inspection of the schedules in a number of these cases indicated that in a few there had certainly been a misunderstanding of the word "disability." It was taken in the legalistic sense of a disability, such as the loss of use of a part or organ, even when this did not prevent the person from working, and the duration was taken as the total time since the onset of that condition.

In general, however, the results were reasonable and not in unexplainable disagreement with those from other studies.

### The Sample

No attempt will be made to describe in any detail here the design of the Census Bureau's household sample since it has been described elsewhere (3, 4). About the middle of each month, census interviewers visit some 25,000 households, located in 68 sample areas in 42 States and the District of Columbia. The sample was designed to yield relatively reliable estimates for the civilian noninstitutional population of the United States as a whole. It is not feasible, therefore, to make regional estimates from it. Such estimates would have too high a sampling variability to be useful.

The Census Bureau sample is what is known as a "probability sample." This means that each element in the population being sampled has a chance of being included in the sample and that this chance, or probability, is known. (In this case the ultimate sampling elements are small units of area from which approximately six households are selected for the sample.) The significance of the "probability-sample" feature is that it permits estimates to be made of the range of possible error in the results. Here the word "error" means the difference between a result obtained from the sample and the corresponding result that would have been obtained had an exactly identical

survey been made of every household in the United States, using the same interviewers, the same instructions, the same questions, and so forth. Some of the error estimates for the results on persons with a disabling illness or condition in the United States in February 1949 are shown in the appendix.

The interviewers used in the survey are part-time workers who, on the average, have had considerable experience in collecting the information on the labor force and also in interpreting and applying special instructions for the supplementary questions that are added to the schedule from time to time. They are coached and rehearsed on the new questions as well as on the old ones by local supervisors who are full-time employees.

The only parts of the population which were not sampled in the survey are (1) the military population, (2) the transient population, consisting of individuals having no household of which they would be considered a member though absent,<sup>5</sup> and (3) the inmates of resident institutions, such as prisons, jails, mental hospitals and institutions, homes for the aged, homes for incurables, and orphanages. The omission of the institutional population is a serious one from the point of view of counting persons with disabling illness, and it should be constantly borne in mind that the figures presented exclude such persons from 14 to 64 years of age in resident institutions. However, anyone in a nonresident hospital, such as a general hospital, would be counted in the household of which he was usually a member.<sup>6</sup> The same would be true of persons who were temporarily absent from their homes on business or vacation.

Some data on the number of persons currently in resident institutions for the care of the sick can be obtained from other sources; these are discussed later.

### Numbers of Persons with a Disabling Illness or Condition

The survey revealed that on an average weekday in February 1949 there were 4,569,000 persons from 14 to 64 years of age in the civilian noninstitutional population of the United States who were unable to work because of illness or a disabling condition. Since there was no important epidemic of upper respiratory disease in the country at that time, this figure is not as heavily weighted with short-duration cases as it might be in other winters. However, experience in other studies indicates that February may be the highest or next-to-highest month in the year in prevalence of disabling illness. The seasonal cycle probably varies for different parts of the country and, since the other

<sup>5</sup> Since the February 1949 survey, the sample design has been changed so that it now includes the transient population.

<sup>6</sup> There is obviously a possibility of undercounting of persons who have been in a general hospital for so long a time that they are no longer thought of as a member of the household.

comparable data available are solely for the eastern seaboard, this point cannot be determined with any accuracy. A 5-year study in Baltimore revealed that the ratio of the prevalence in February to that for an average of the 12 months of the year varied from 1.18 to 1.66, the variation being chiefly due to the seasonal cycle of the acute respiratory diseases. Not strictly comparable but, nevertheless, pertinent are the monthly labor force data from the Current Population Survey itself. The number of persons with a job but not at work during the whole of the February 1949 survey week was 15 percent higher than the average of the corresponding figures for the 12 months, September 1948 to August 1949. A fair guess might be that the prevalence found for the country in February 1949 was 20 percent above the average for the year from September 1948 to August 1949. Since most of the change occurs in the short-duration cases, figures from this survey on persons disabled 3 months or longer are probably influenced only very slightly by this factor. The survey should certainly be repeated in other months to gain more information on seasonal variation.

Of the total number disabled, 2,417,000, or 53 percent, had been disabled for 3 months or longer at the time of visit. Except for approximately 1 percent for whom duration of disability was not reported, the remainder had been disabled less than 3 months. Disabled persons in resident institutions are excluded from these figures, as stated previously. The great majority of these would be in the 3-months-or-longer group. Hence, the total of 2,098,000, representing persons reported as having been disabled less than 3 months, is not greatly affected by the exclusion of resident institutions from the survey.

In the 1940 census, the institutional population from 14 to 64 years of age numbered 955,000 persons of whom 215,000 were in prisons or reformatories, 97,000 in local jails or work-houses, 503,000 in mental institutions, 119,000 in homes for the aged, infirm, or needy, and 20,000 in other or unknown types of institution. By 1947 the number of persons of all ages in permanent-care mental hospitals had increased by approximately 13 percent (5). By the time of this survey it was probably 15 percent higher than in 1940. Hence, it may be estimated that because of the exclusion of mental hospitals from the survey coverage at least 580,000 disabled persons should be added to the total of those disabled for 3 months or longer. The number disabled on any one day in other types of institutions can only be estimated very roughly. For the age group 14-64 years it would be probably in the neighborhood of 125,000. In addition to those not covered because they were in resident institutions, there were about 38,000 on the sick list in the armed services in February 1949. All together, therefore, the number of persons from 14 to 64 years of age

with a disabling illness or condition was about 5,310,000 in February. This represented 5.4 percent of the total population at these ages.

Since so little is known about the disabling illness in resident institutions other than mental hospitals, other discussion of disability statistics is restricted to the estimates for the noninstitutional population from the sample survey.

### Percentage of Persons with Disabling Illness or Condition

Two simple kinds of rates can be computed from the estimates of numbers of disabled persons in various segments of the population. One is simply the percentage of persons in the given population group found to be disabled at the time of the visit. The other is the average number of days of disability that might be expected in a year for each person in this group. However, the latter rate is obtained by multiplying the number disabled on the day of the visit by 365 to give the estimated number of person-days of disability in a year (provided the February experience could be considered as average), and then dividing by the population. Hence, it is obvious that the average number of days of disability per person per year can be computed simply by multiplying the percentage of the population disabled on the day of visit by 3.65.<sup>7</sup> It should be remembered that this will still yield a rate for February which is expressed on an annual basis by convention. It is subject to the same sort of seasonal variation as the percentage of persons disabled on the day of visit. Since the second rate can be obtained so readily from the first, none of the rates for days of disability per person will be shown.

Table 1 presents the number and percentage of persons with a disabling illness or condition by age and sex for each major category of the labor force and non-labor force population from 14 to 64 years of age. In this table and in others showing the employment status of the population, the group of persons who, because of a long-term illness or condition, are not working or looking for work and who do not anticipate being able to return to the labor force within 6 months is shown as a separate category. It is not certain, of course, that all the females falling under this heading would have been in the labor force (that is, employed or seeking work) had they not been disabled. There is probably no clear dividing line between the females classified as "unable to work" and the housewives who have been disabled for long periods of time. It will be apparent from the statistics on duration of disability to be shown later that, insofar as duration is a measure of severity, the "unable to work" category for both males and females contains the most severely disabled persons. The prevalence rate for all persons in the group is 100 percent.

<sup>7</sup> When applied to the percentage disabled in the civilian noninstitutional population from 14 to 64 years of age this yields an average of 17.2 days of disability per person per year.



Table 1. *Estimated<sup>1</sup> number and percentage of persons with a disabling illness or condition in the civilian noninstitutional population, 14-64 years of age; by age, sex, and employment status: United States, February 1949*

Age by years and sex	Total in and out of labor force	In labor force survey week				Not in labor force survey week			
		Employed			Unem- ployed	Keep- ing house	In school	Unable to work	Other
		Total	In agri- culture	In other indus- try					
Number of disabled persons (in thousands)									
Both sexes.....	4,569	1,425	228	1,197	175	1,230	189	1,206	345
14-19.....	387	77	11	67	14	36	160	66	35
20-24.....	364	127	10	117	10	102	14	75	36
25-34.....	650	240	24	217	22	213	16	126	35
35-44.....	797	299	36	263	47	262	-----	136	51
45-54.....	1,044	344	56	287	48	285	-----	289	80
55-64.....	1,330	339	92	247	35	334	-----	514	111
Male.....	2,341	983	218	765	143	9	104	855	248
14-19.....	196	46	11	36	7	-----	78	44	21
20-24.....	150	61	10	51	7	-----	12	46	24
25-34.....	274	139	24	116	19	5	14	78	19
35-44.....	366	204	34	170	37	-----	-----	90	34
45-54.....	566	204	54	209	43	2	-----	204	54
55-64.....	791	269	85	184	31	2	-----	393	97
Female.....	2,228	442	10	432	32	1,221	85	351	97
14-19.....	191	31	-----	31	7	36	82	22	14
20-24.....	214	66	-----	66	3	102	2	29	12
25-34.....	376	101	-----	101	3	208	2	48	16
35-44.....	431	95	2	93	10	262	-----	46	17
45-54.....	478	80	2	78	5	283	-----	85	26
55-64.....	539	70	7	63	4	332	-----	121	14

Percentage of disabled persons in each group

Both sexes.....	4.72	2.62	3.62	2.49	5.70	4.26	2.34	100.00	31.77
14-19.....	3.12	1.91	1.36	2.08	2.92	3.53	2.39	100.00	28.69
20-24.....	3.20	1.99	1.79	2.01	1.61	3.20	1.37	100.00	37.11
25-34.....	2.86	1.76	1.94	1.75	3.53	2.72	4.72	100.00	28.23
35-44.....	3.93	2.30	2.57	2.27	8.53	4.05	0	100.00	45.95
45-54.....	6.17	3.29	4.86	3.09	11.03	5.14	0	100.00	40.40
55-64.....	10.16	4.90	8.08	4.28	9.56	6.89	0	100.00	25.52
Male.....	4.98	2.55	3.99	2.31	6.28	( <sup>2</sup> )	2.36	100.00	29.67
14-19.....	3.24	1.51	1.51	2.21	2.35	( <sup>2</sup> )	2.40	100.00	23.86
20-24.....	2.76	1.51	2.04	1.44	1.51	( <sup>2</sup> )	1.46	100.00	39.34
25-34.....	2.54	1.41	2.27	1.32	4.15	( <sup>2</sup> )	4.59	100.00	22.89
35-44.....	3.71	2.20	2.89	2.10	9.18	( <sup>2</sup> )	0	100.00	45.33
45-54.....	6.78	3.46	5.51	3.14	12.65	( <sup>2</sup> )	0	100.00	36.49
55-64.....	12.12	4.96	8.20	4.20	9.90	( <sup>2</sup> )	0	100.00	25.46
Female.....	4.48	2.80	1.21	2.88	4.03	4.23	2.31	100.00	38.80
14-19.....	3.01	1.86	0	1.95	3.87	3.56	2.39	100.00	41.18
20-24.....	3.60	2.82	0	2.91	1.94	3.20	0.99	100.00	33.33
25-34.....	3.16	2.66	0	2.79	1.82	2.66	5.88	100.00	39.02
35-44.....	4.14	2.56	0.89	2.67	6.76	4.05	0	100.00	47.22
45-54.....	5.58	2.85	1.16	2.96	5.26	5.12	0	100.00	52.00
55-64.....	8.21	4.69	6.86	4.53	7.55	6.85	-----	100.00	25.93

<sup>1</sup> All figures in this and other tables are estimates from a sample survey and are, therefore, subject to sampling variability which may be relatively large in the case of the smaller figures and small differences between figures. See appendix for measures of sampling variability. Each cell of the tables was estimated separately; hence, the detail figures do not in all cases add to give the exact total shown.

<sup>2</sup> Percents not shown where based on an estimate of less than 100,000 population for all ages.

The column labeled "Other" in table 1 includes retired and voluntarily idle persons, seasonal workers for whom the survey week fell in an "off" season, some persons doing less than 15 hours a week of unpaid family work, and, finally, persons who were ill during all of the week to which the labor force questions applied and did not specify what they would have been doing if they had not been sick.

Among the points of interest revealed by this table are:

1. Prevalence of disabling illness among males was higher than that among females at ages 45-64 years, about the same as that among females at 14-19 years, and less than the female prevalence at 20-44 years. Registration statistics indicate that the ratio of male mortality to female mortality is greater than 1 at all these ages, but the excess is greatest at 15-24 years and 45-64 years.

2. The 1,206,000 persons from 14 to 64 years of age who considered themselves unemployable and, hence, had no jobs and were not seeking work because of their health, represent about four-tenths as great a number as the February unemployed in the same ages, estimated by the Census Bureau at 3,071,000. Experience has shown that nearly all of the former group can actually do useful, gainful work, after rehabilitation, yet they receive only a small fraction of the attention that is devoted to the unemployed as a part of our potential manpower.

3. Rates for male unemployed appear to be considerably higher in this survey than in surveys made when there were many more unemployed, indicating that, when employment is high, a higher proportion of those seeking work are in bad health because most of those in good health have already found jobs. This also suggests the possibility that some of those who class themselves as "seeking work" are actually unable to work.

4. Prevalence of disabling illness among male workers employed in agriculture is greater than among nonagricultural male workers.

5. Employed females have lower rates than housewives.

Another comparison between the various employment status groups is provided in table 2 in which prevalence is shown relative to the total prevalence for both sexes and all categories which is taken as 100. The effect of differences in the age composition of the population from one group to another has been equalized in these ratios by the manner of computation.<sup>8</sup> This table also shows the relative prevalence for married and unmarried (including widowed and divorced) females. Some of the ratios for married and unmarried females are unreliable because of the small numbers of disabled persons involved, but no ratio is shown where the population in all age groups is estimated at less than 100,000. Some of the differences that appear can also be accounted for as the result of a correlation between the existence of a disabling illness or condition in an individual and the employment status reported for that individual. One example will suffice to illustrate this. In the sample of about 25,000 households, no married females employed in agriculture were reported as disabled

<sup>8</sup> Each ratio is 100 times the quotient of the observed estimate of number of persons disabled and the "expected" number disabled. The latter number is obtained by multiplying the age-specific prevalence rates for the entire population surveyed by the estimated populations in each age group of the particular sex-employment status category.



Table 2. *Relative prevalence of disabling illness in the civilian noninstitutional population 14-64 years of age, by employment status, sex, and marital status for females: United States, February 1949*

Sex and marital status	Total civilian non-institutional population 14-64 years	In labor force survey week					Not in labor force survey week				
		Total	Employed			Unemployed	Total	Keeping house	In school	Unable to work	Other
			Total	In agriculture	In other industry						
Both sexes.....	100	59	55	71	53	127	160	85	75	1,436	486
Male.....	105	57	53	78	48	135	468	(1)	75	1,379	428
Female.....	95	64	63	25	65	100	110	85	74	1,595	746
Female:											
Married.....	86	69	69	0	75	80	92	78	(1)	1,364	(1)
Not married.....	117	59	56	83	55	118	179	124	75	1,675	600

<sup>1</sup> Ratio not shown because based on estimated population less than 100,000.

NOTE.—Prevalence in the entire civilian noninstitutional population 14-64 years of age is taken as 100. Each relative prevalence is adjusted for age differences in the various population groups.

on the day of visit, this despite the fact that, on the basis of the estimated population and the rates for fairly similar groups, at least 10 such instances might have been expected. This probably is at least partly due to the lack of a clear distinction between married women keeping house on a farm and married women on a farm considered as employed in agriculture. The circumstance that a woman was disabled on the day of visit might easily have led in some cases to reporting her as a housewife rather than as working on the family farm.

Naturally, the population group whose employment status is given as "unable to work" has the highest prevalence of disabling illness since all in it are disabled by definition. The group of "others" not in the labor force, consisting chiefly of retired and voluntarily idle persons and ill persons whose labor force status was unknown, had from four to seven times as much disabling illness as the average for the entire population. But, omitting these two groups in which the definition of the category leads to the automatic inclusion of ill persons, the highest group in amount of disability was that of the unemployed. The apparently great difference between the prevalence for the male and female unemployed should not be considered significant. It can be shown that a difference as great as this could easily be a chance result in a sample of this size. (In the National Health Survey of 1935-36 the prevalence of disabling illness was higher for unemployed females than for unemployed males.)

The housekeepers, particularly the unmarried females in this class, were next highest in amount of disability. The rate for the students is not significantly different from that for housekeepers. Finally, the employed persons had the lowest prevalence of disability. However, within the employed group, as has already been mentioned, there

were some rather marked differences. Males in agricultural employment had about half again as much disability as their fellow workers in nonagricultural industry. The comparison for married females is of questionable value for reasons previously stated.

The figures in the total column, for all employment status groups combined, indicate that males have 5 percent more and females 5 percent less than the over-all prevalence of disability, but the index for unmarried females is 17 percent above that for all groups combined and is approximately a third higher than the index for married females.

Race differences in the prevalence of disabling illness are shown in figures 1 (a), 1 (b), and 1 (c). The familiar fact of a higher prevalence of disabling illness at every age in the nonwhite population is clearly seen in figure 1 (a), but not so familiar is the marked sex contrast in this excess revealed in the other two graphs. Among males at various ages the ratio of nonwhite to white prevalence varies from 0.99 to 2.05. Among females, on the other hand, the ratios vary from 1.15 to 2.32. The apparently inconsistent results for the youngest age group may be the result of chance fluctuations in the nonwhite rates. However, there is no question of the significance of the sex difference in the excess of nonwhite over white prevalence.

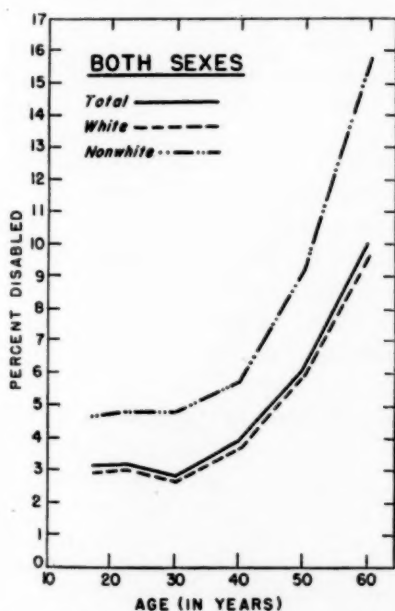


Figure 1 (a). Percentage of persons 14-64 years of age in the civilian non-institutional population of the United States with a disabling illness or condition on the day of the survey, by race: February 1949.

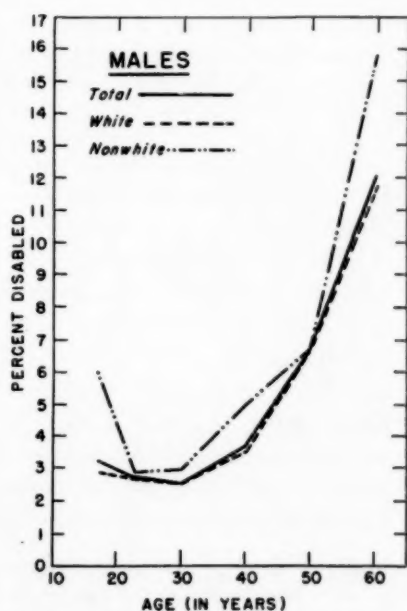


Figure 1 (b). Percentage of males 14-64 years of age in the civilian non-institutional population of the United States with a disabling illness or condition on the day of the survey, by race: February 1949.

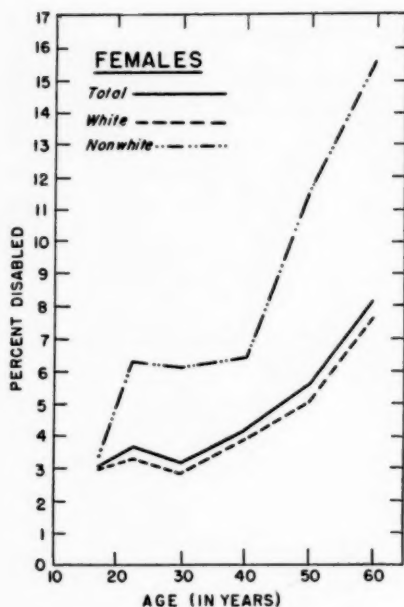


Figure 1 (c). Percentage of females 14-64 years of age in the civilian non-institutional population of the United States with a disabling illness or condition on the day of the survey, by race: February 1949.

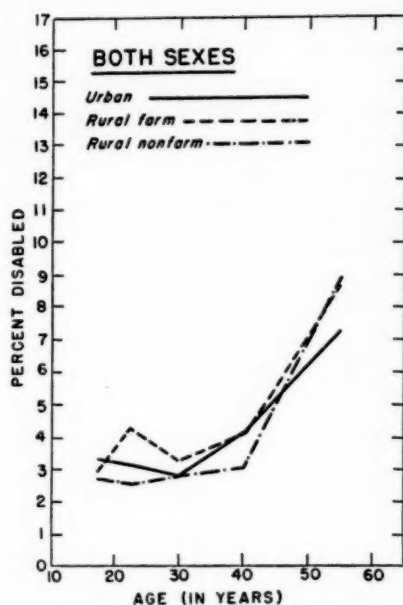


Figure 2 (a). Percentage of persons 14-64 years of age in the civilian non-institutional population of the United States with a disabling illness or condition on the day of the survey, by place of residence: February 1949.

Table 3 is computed in the same manner as table 2. It illustrates in a summary form what has just been pointed out regarding the higher prevalence of disability in the nonwhite population.

The differences in prevalence of disability according to whether the household was an urban, rural farm, or rural nonfarm household were not so clear-cut or consistent as those which appeared when the population was classified by race. The percentages of persons in each age and sex group who were disabled on the day of visit are shown in figures 2 (a), 2 (b), and 2 (c). Since the urban population of the country constitutes roughly six-tenths of the total, the urban percentages lie rather close to those for the entire population, as may be seen by comparing these graphs with figures 1 (a), 1 (b), and 1 (c). When both

Table 3. Relative prevalence of disabling illness in the civilian noninstitutional population 14-64 years of age, by sex and race: United States, February 1949

	Total	White	Nonwhite
Both sexes.....	100	95	153
Male.....	105	102	133
Female.....	95	88	171

NOTE.—Prevalence in the entire civilian noninstitutional population 14-64 years of age is taken as 100. Each relative prevalence is adjusted for age differences in the various population groups.

sexes are considered together, there seems to be a slight tendency for the rural farm prevalence to be higher than the prevalence in the other two categories, and this is more obvious when the male percentages are examined separately. However, the pattern for the female prevalence is quite different.

Prevalence in each residence-sex group relative to the prevalence for both sexes in the entire survey and adjusted for differences in age composition, just as in tables 2 and 3, is given in table 4. The ratio for rural males appears to be significantly higher than the ratio for urban males. However, it would be desirable to have additional evidence on this point. The differences in the case of the females are too small to be adjudged significant. Yet the evidence from this survey is the first that provides an opportunity to study the question of whether the prevalence of disabling illness differs in the urban and rural parts of this country. Other surveys in which similar information was collected have either been restricted to urban or to rural areas or have been too limited in geographical coverage to permit any general conclusion to be drawn. It is a well-recognized fact that mortality is higher in urban than in rural areas, though the reasons for this are

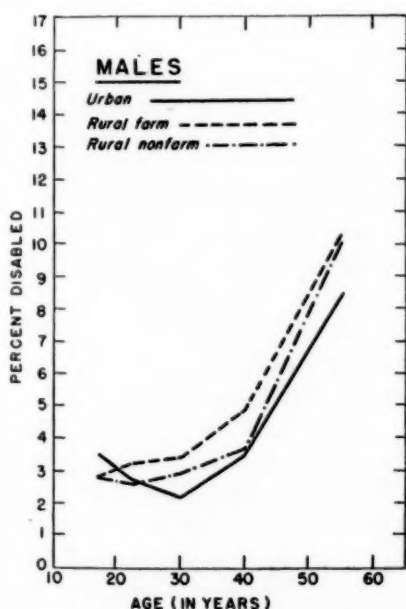


Figure 2 (b). Percentage of males 14-64 years of age in the civilian noninstitutional population of the United States with a disabling illness or condition on the day of the survey, by place of residence: February 1949.

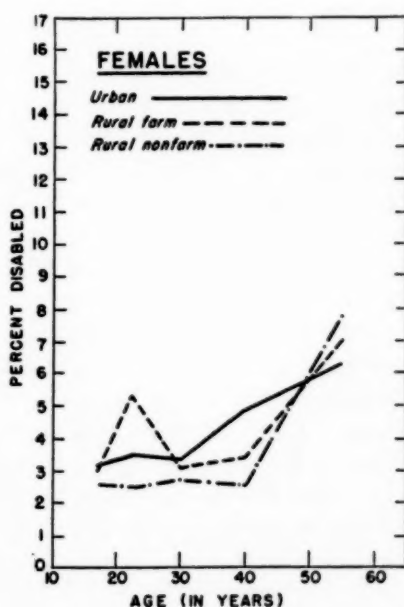


Figure 2 (c). Percentage of females 14-64 years of age in the civilian noninstitutional population of the United States with a disabling illness or condition on the day of the survey, by place of residence: February 1949.

**Table 4. Relative prevalence of disabling illness in the civilian noninstitutional population 14-64 years of age, by sex and place of residence: United States, February 1949**

	Total	Urban	Rural farm	Rural nonfarm
Both sexes.....	100	97	109	99
Male.....	105	98	119	110
Female.....	95	97	98	89

NOTE.—Prevalence in the entire civilian noninstitutional population 14-64 years of age is taken as 100. Each relative prevalence is adjusted for age differences in the various population groups.

not entirely understood. There is no reason to suppose that prevalence of disability should show the same pattern and, in fact, the limited evidence produced here seems to point to a difference in the opposite direction. However, it should be remembered that the concept of a disabling illness or condition, that is, an illness or condition sufficiently severe to prevent the person from doing his regular work or attending to other duties, is a concept which may easily have quite a different meaning for persons living in cities, on farms, or in rural non-farm areas. (It most certainly has a different meaning for the housewife, the family breadwinner, the retired or voluntarily idle person, and the student.)

### Duration of Disability

The only measure of the severity of the disabling illness or condition provided in this survey comes from the statement of the duration of disability prior to the day of visit. This measure must be considered a very crude one not only because previous experience has proved that the informant's statement on the length of disability is only roughly accurate, but also because the persons who have been disabled longest are not necessarily the most severely ill from the standpoint of impaired health or chances of recovery.

The estimate of the number of civilians 14-64 years of age, not in resident institutions, who had a disabling illness or condition on the day of visit is 4,516,000 if the estimate is based solely on those in the sample for whom a duration was reported. Of these, 1,649,000, or 36.5 percent, were stated to have been disabled more than 1 year. Ignoring for the moment seasonal and trend effects, the duration of disability prior to the day of visit is, on the average, only about one-half of the total duration of disability that can be expected for those who happened to be disabled on that day. In other words, if it were possible to follow all of the persons disabled on the day of the visit until their disability terminated, either in recovery or commitment to a resident institution or death, it would be found that the duration of disability subsequent to the visit would, on the average, be roughly the same as that prior to the visit. Also, the distribution of disabled cases according to duration subsequent to visit should be similar to



the distribution prior to visit, again ignoring considerations of seasonal cycle or secular trend. Hence, if 36.5 percent have been disabled for a year or more at the time of the survey, then about the same proportion, though, of course, not necessarily the same individuals, will be disabled for a year or more subsequent to the survey.

To one unfamiliar with statistics of prevalence of disability such a relatively high proportion of long-term cases is surprising. The reason is that in a prevalence study the probability of finding a disabled person in the sample is proportional to the total length of his period of disability. A person with a disabling illness lasting a year has 52 times as great a chance of being found disabled in the sample as one with an illness lasting a week. The distribution of persons found to be disabled according to the length of their disability prior to the visit is not at all the same as, and should not be confused with, the distribution according to total duration that one finds by taking all the cases of disabling illness with onset during a given period and following them until their termination. The former type of distribution is the only one that can be obtained directly from a prevalence type of survey such as this, and it is far more heavily weighted with the longer cases.

The data of table 5 show the percentage distribution of disabled persons according to prior duration of disability for each age and sex category. In the last column of the table the total percentage over 3 months is given.<sup>9</sup> (In this and the following tables the percentages are based on all disabled persons in the group including the few for whom a duration was not reported.) The increase in the duration with age which has been observed in many other studies is clearly seen, but an interesting exception is found. There is a higher proportion of disabled males with very long durations—10 years and over—in the ages 14–24 years than there is in the ages 25–54 years. The females show a difference in the same direction which, however, is not great enough to exclude the possibility that it is a chance result. Whether this peculiarity has some artificial explanation or whether it is an actual feature of the distribution of severely disabling illness in the population cannot be determined without further evidence.

The percentage of the population in the various age and sex groups that had been disabled for specified lengths of time can be determined by multiplying the percentages in table 5 by the percentages in the first column of figures of table 1. For example, since 50.4 percent of the disabled persons of all ages, both sexes, had been disabled for more than 3 months, and since 4.72 percent of the population of all

<sup>9</sup> Durations were recorded in single days up to and including 10 days, then to the nearest week through 6 weeks, to the nearest month through 11 months, to the nearest year through 9 years, and finally as 10 years for any duration over 9½ years, including disability since birth. Thus, the class interval "over 3 months" would include any duration from 3¼ months up.

Table 5. *Percent distribution of disabled persons in the civilian noninstitutional population, 14-64 years of age, by duration of disability prior to day of visit: United States, February 1949*

Age by years and sex	Num- ber dis- abled (in thous- ands)	Per- cent all dura- tions	Duration of disability—percent								
			Not over 1 week	Over 1 week but not over 1 month	Over 1 month but not over 3 mos.	Over 3 mos. but not over 6 mos.	Over 6 mos but not over 1 yr.	Over 1 yr. but less than 10 yrs.	10 yrs. and over	Dura- tion not re- ported	Total percent over 3 mos.
Both sexes	4,569	100.0	24.8	15.1	8.6	5.4	8.9	22.5	13.6	1.2	50.4
14-19	387	100.0	52.2	9.8	6.2	3.9	4.1	5.9	17.5	0.5	31.4
20-24	364	100.0	38.8	15.8	11.2	3.8	2.5	11.2	15.8	0.8	33.3
25-34	650	100.0	31.6	18.9	8.0	3.8	7.2	18.1	10.9	1.5	40.0
35-44	797	100.0	26.7	20.1	9.0	6.5	7.1	18.7	10.9	1.0	43.2
45-54	1,044	100.0	19.4	16.0	9.4	5.2	12.1	25.3	11.4	1.3	54.0
55-64	1,330	100.0	12.6	11.0	8.1	6.6	11.4	32.6	16.5	1.1	67.1
Male	2,341	100.0	17.7	12.5	8.3	6.0	10.9	29.0	14.4	1.2	60.3
14-19	196	100.0	50.3	6.1	6.1	3.6	7.1	4.6	21.3	1.0	36.6
20-24	150	100.0	29.5	13.4	8.1	3.4	3.4	20.8	21.5	-----	49.1
25-34	274	100.0	20.0	11.3	8.7	5.1	9.8	31.6	11.6	1.8	58.1
35-44	366	100.0	22.3	17.2	7.9	7.1	9.8	24.0	11.2	0.5	52.1
45-54	566	100.0	13.2	14.6	10.8	6.0	11.1	31.6	11.1	1.6	59.8
55-64	791	100.0	7.7	10.5	7.1	7.1	14.0	36.2	16.2	1.3	73.5
Female	2,228	100.0	32.1	17.9	9.0	4.7	6.7	15.7	12.7	1.2	39.8
14-19	191	100.0	54.2	13.5	6.2	4.2	1.0	7.3	13.5	-----	26.0
20-24	214	100.0	45.2	17.5	13.4	4.1	1.8	4.6	12.0	1.4	22.6
25-34	376	100.0	40.1	24.4	7.4	2.9	5.3	8.2	10.3	1.3	26.8
35-44	431	100.0	30.4	22.5	10.0	6.0	4.9	14.2	10.7	1.4	35.7
45-54	478	100.0	26.8	17.6	7.7	4.2	13.2	17.8	11.7	1.0	46.9
55-64	539	100.0	19.7	11.7	9.6	5.9	7.6	27.5	17.1	0.9	58.1

ages and both sexes was disabled, then  $0.504 \times 4.72$  or 2.38 percent of the entire surveyed population had been disabled over 3 months.

The employment status and marital status groups differ markedly in respect to age; hence, comparison of the prior duration of disability between them has to be made in terms of specific age groups or in terms of some index that makes allowance for age differences. Data were not available in sufficient detail to permit the former. Therefore, the figures for the various groups in table 6 are ratios of observed to expected numbers of persons disabled for over 3 months (times 100). The expected number of persons disabled for this length of time was obtained by multiplying the proportion of disabled persons, disabled for over 3 months, in each age group of the whole survey population (see last column in top portion of table 5) by the number of disabled persons at each age in the particular employment-marital status group and then adding to get a total for all ages. Thus, the figure of 124 for unemployed males shows that the proportion of disabled unemployed males who had been disabled for more than 3 months was 24 percent higher than one might expect on the basis of the experience of all groups combined.

In general, it appears that there were higher proportions of cases of 3 months or more prior duration among both males and unmarried females than among married females. The relative percentage for males was also greater than that for unmarried females, but the dif-



Table 6. *Relative percentages of disabled persons who had been disabled over 3 months (percentage disabled over 3 months in all groups combined=100); by employment status, sex, and marital status for females: United States, February 1949*

Sex and marital status	Total civilian noninstitutional population 14-64 years	In labor force survey week					Not in labor force survey week				
		Total	Employed			Unemployed	Total	Keeping house	In school	Unable to work	Other
			Total	In agriculture	In other industry						
Both sexes.....	100	63	56	100	47	118	119	77	50	169	110
Male.....	116	73	66	100	56	124	155	(1)	71	169	125
Female.....	82	36	32	(1)	30	92	93	76	26	169	65
Female:											
Married.....	69	25	23	(1)	23	72	78	66	(1)	149	41
Not married.....	105	48	43	(1)	39	100	124	109	26	186	74

<sup>1</sup> Index not shown because of small number of disabled persons in the sample.

NOTE.—Each index has been adjusted for age differences in the various population groups. See text for further explanation.

ference is not quite large enough to be statistically significant. From data not contained in these tables it was observed that the very long durations—over 10 years—were found most frequently among disabled unmarried females. Their severe disability undoubtedly affected their chances for marriage.

The relative percentages shown in table 6 must be interpreted with great caution for the smaller population groups, such as the unemployed, the persons in school, those employed in agriculture, and "others" not in the labor force. The sampling errors of the adjusted percentages for these groups are quite high. As a general rule, in the population groups having a relatively high proportion of disabled persons with over 3 months' disability, there was also found a relatively high prevalence, and vice versa. This may be seen by comparing table 6 with table 2. Such a result was to be expected since, as has already been pointed out, the persons with a long disabling illness are more likely to be found disabled in the survey. One departure from this association is worth mentioning. Employed females were more frequently found disabled on the day of the survey than were the employed males, but a considerably smaller proportion of the females had been disabled for over 3 months.

Although tables showing the prior duration of disability of white and nonwhite population, and of urban, rural farm, and rural nonfarm population are not shown for lack of space, the figures from the survey indicated the following:

1. For both sexes combined there was very little difference between white and nonwhite disabled persons in the proportion disabled for longer periods, but the disabled white males had more of the longer durations than the disabled nonwhite males. In the case of the females the difference was in the opposite direction but was not great

enough to rule out the possibility that it was a chance result. It appears that the higher proportion of long-duration cases among disabled males, previously mentioned, was a characteristic of the white population only. There was no evidence of a sex difference in the nonwhite population.

2. The rural population had a higher proportion of disabled males with long durations than did the urban population. In the case of the females, however, there was no indication of a significant difference in the duration for disabled persons living in urban and rural areas. Males exceeded females in this respect in all three types of area just as they did in the country as a whole.

### **Persons "Unable-To-Work" or Disabled 10 Years or More**

As might be expected, the highest proportion of persons with a disabling illness or condition that had lasted more than 3 months at the time of visit was found among those not included in the labor force because they were stated to be "unable to work" (table 6). About nine-tenths of such persons were reported either to have been unable to do their regular work or other duties or at least unable to do anything but occasional part-time work for more than 3 months. The remaining one-tenth should represent persons who had to quit their jobs within the last few months owing to their health and did not anticipate being able to return, but, since this proportion seems a little too large, it may also include some who misunderstood the questions. In any case, there are some disabled persons classified as "unable to work" who will, in fact, return to work of a less taxing nature or even to their old jobs. But these would tend to be counterbalanced by the number of disabled persons who, though listed as "employed" or "seeking work" will actually never return to work.

It was also found that 18.2 percent of the "employed" disabled persons covered in the survey were reported to have been disabled for more than 1 year (actually more than a year and 6 months since durations of a year or more were recorded to the nearest year). This undoubtedly includes some individuals who were not disabled according to the definition used in this survey but who had some severe handicapping condition. It also includes some who came under the definition because, although they did do some gainful work in the week prior to the visit, they suffered from some physical or mental condition that ordinarily prevented them from doing anything except irregular part-time work. Another part of the 18.2 percent is made up of persons who call themselves employed and still have hopes of returning to their jobs but will never do so.

Of the estimated 75,000 employed and 15,000 unemployed persons who were reported to have been disabled for 10 years or longer it can

only be said (1) that the number is so small as to be of little statistical significance in a sample of this size, and (2) that probably it is largely made up of persons to whom the concept of disability intended in this study was not adequately made clear.

It may safely be stated, however, that there are 1,206,000 persons in the working ages of the population of this country, not being cared for in resident institutions, who are incapacitated to such an extent that they consider themselves unable to work at all, now or in the foreseeable future. And, in addition, there are 254,000 persons with some physical or mental condition that at least seriously handicaps them in their work and has lasted for 10 years or longer. This total of 1,460,000 individuals, plus an estimated 700,000, also between 14 and 65 years of age, in resident institutions, constitutes the least easily reduced portion of that lost manpower in the living population for which chronic disease and handicapping conditions are responsible.

### Summary

The results of a sample survey conducted in February 1949 to determine the prevalence on the day of the interview of disabling illness, injuries, and impairments are described. The study was based on door-to-door interviewing of some 25,000 households. The sample used was the Census Bureau's Current Population Survey, and the questions on disabling illness and other disabling conditions were added to the regular monthly schedule for that survey. Prevalence of disabling illness and other conditions preventing the individual from working or carrying on his usual activities on the day of the visit was determined for persons from 14 to 64 years of age. Prior duration of the disability was also obtained.

The survey revealed that on an average weekday in February 1949 there were about 4,569,000 persons from 14 to 64 years of age in the civilian population of the entire United States disabled by illness or some condition that prevented them from doing anything but occasional part-time work. This does not include persons between these ages in resident institutions or in the armed services. A rough estimate for these two categories, not covered in the survey, brings the total up to 5,310,000, or 5.4 percent of the population between these ages.

It is estimated that, including approximately 700,000 in resident institutions, there are 2,160,000 persons from 14 to 64 years of age who are incapacitated to such an extent that they must be considered to be out of the labor force permanently or at least for 10 years or longer.

The report also compares the prevalence by age, race, urban, or rural residence, and prior duration of disability, but no data on cause of disability were obtained.

## APPENDIX

### Sampling Variability

The following table shows the approximate amount of variation due to sampling for various sizes of estimates of numbers of disabled persons in the United States. The chances are about 19 out of 20 that the difference between the estimate obtained from the sample and the figure that would have been obtained if an identical survey had covered every household in the country is less than the figure in the second column.

Size of estimate	Sampling variability
10, 000	11, 000
50, 000	26, 000
100, 000	36, 000
300, 000	63, 000
500, 000	81, 000
1, 000, 000	110, 000
2, 000, 000	160, 000
4, 500, 000	240, 000

Thus, for example, the following statement can be made about the estimate of 4,569,000 civilians from 14 to 64 years of age outside of resident institutions disabled on the day of the survey. If an identical survey, using similar enumerators and the same questions, had been carried out in which every household in the country had been visited, the chances are about 19 out of 20 that the count of disabled civilians between these ages would differ by less than 240,000 (or about 5 percent) from the estimate presented here.

Estimated percentages are relatively more reliable than the corresponding absolute estimates. The following table shows the approximate sampling variability of the percentages derived from the survey.

If the size of the base is—	And if the estimated percentage is—				
	2	5	10	20	50
	Then the chances are about 19 out of 20 that the difference between the estimated percentage and the percentage which would have been obtained from an identical survey covering all households is less than—				
100, 000, 000	0.2	0.2	0.3	0.5	0.6
50, 000, 000	.2	.4	.5	.6	.8
20, 000, 000	.4	.6	.8	1.0	1.3
10, 000, 000	.5	.8	1.1	1.4	1.8
5, 000, 000	.7	1.1	1.5	2.0	2.6
3, 000, 000	.9	1.4	2.0	2.6	3.3
2, 000, 000	1.1	1.8	2.4	3.2	4.0
1, 000, 000	1.6	2.5	3.4	4.6	5.7
500, 000	2.3	3.5	4.9	6.5	8.1
200, 000	3.6	5.6	7.7	10.2	12.8

Since space has not permitted the publication of the estimated

populations from which the percentages were computed, the above table will have a limited usefulness. However, it is presented here to give an idea of the general magnitude of possible errors due to sampling. As an example, the percentage of disabled persons in the civilian non-institutional population 14 to 64 years of age was found to be 4.72. This was based upon an estimated population of 96,763,000 between the stated ages. Thus, the chances are about 19 out of 20 that the percentage obtained from an identical survey covering every household in the country would differ from 4.72 by less than 0.2 percent. In other words it would probably lie somewhere between 4.5 and 4.9 percent.

Again it must be emphasized that any type of bias that is inherent in the survey method, coverage, phrasing of questions, or interview makes for additional error, not included in the above measures of reliability.

### Comparison of Results with National Health Survey

The possibilities for comparison of data from the February 1949 survey with corresponding figures from the National Health Survey of 1935-36 are rather limited. The National Health Survey (NHS) covered only urban population and most of the disability prevalence statistics available relate to the labor force only, while in the February 1949 survey (CPS) tabulations were not made showing employment status for urban areas only. However, in a special tabulation of NHS data based on the white population of eight of the survey cities, prevalence of disabling illness is shown for labor force and non-labor force combined, and this can be compared with data for white and for urban population from CPS. Unfortunately the white-urban combination is not available in the CPS tabulations, so, again, statistics from completely comparable population groups in the two surveys cannot be set side by side.

#### *Percentage of persons disabled on day of visit*

[Data for white population of 8 NHS cities versus CPS data]

Sex and age	8 cities NHS	CPS white	CPS urban	CPS Total
Both sexes:				
15-24 years <sup>1</sup> .....	2.77	2.97	3.22	3.16
25-44 years.....	3.95	3.18	3.44	3.36
45-64 years.....	6.52	7.57	7.37	7.91
Male:				
15-24 years <sup>1</sup> .....	2.29	2.82	3.11	3.01
25-44 years.....	3.00	3.02	2.78	3.10
45-64 years.....	6.24	9.00	8.48	9.13
Female:				
15-24 years <sup>1</sup> .....	3.19	3.10	3.33	3.29
25-44 years.....	4.80	3.33	4.03	3.62
45-64 years.....	6.78	6.18	6.33	6.72

<sup>1</sup> CPS data are for 14-24 years.



In view of the 13 years separating these surveys, the difference in the types of enumerators used, and the difference in the form of the interview (though the definition of disability used in each survey was approximately the same), it seems rather remarkable that the results should be as close together as they are.

#### ACKNOWLEDGMENT

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### Communities Awarded Milk Sanitation Ratings of 90 Percent or More During 1948 and 1949

This is the semiannual revision of the list of Public Health Service milk ordinance communities which were reported by State milk-sanitation authorities during the 2-year period January 1, 1948 to December 31, 1949 as having a market milk rating of at least 90 percent. The inclusion of a community in this list means that if pasteurized milk is sold in the community it is of such a degree of excellence that the weighted average of the percentages of compliance with the various items of sanitation required by the Public Health Service Milk Ordinance for grade A pasteurized milk is 90 percent or more, and that, similarly, if raw milk is sold in the community, it so nearly meets the

From Division of Sanitation, Milk and Food Branch.

standards that the weighted average of the percentages of compliance with the various items of sanitation required for grade A raw milk is 90 percent or more.

These ratings are not a complete measure of safety, but represent the degree of compliance with the grade A standards. High-grade pasteurized milk is safer than high-grade raw milk because of the added protection of pasteurization. Safety estimates should take into account the percentage of milk pasteurized, which is given in the table. To obtain this added protection, those who are dependent on raw milk can pasteurize the milk at home by the use of an approved home pasteurizer or by either of the following methods: (1) After the

### Communities Awarded Milk Sanitation Ratings of 90 Percent or More, 1948-49

Community	Percent of milk pasteurized	Date of rating	Community	Percent of milk pasteurized	Date of rating
ALL MARKET MILK PASTEURIZED					
<b>ALABAMA</b>			<b>KENTUCKY</b>		
Auburn.....	100	Sept. 29, 1949	Owensboro.....	100	Apr. 8, 1949
Birmingham and Jefferson County.....	100	Nov. 17, 1949	<b>NORTH CAROLINA</b>		
<b>COLORADO</b>			Mars Hill.....	100	Dec. 9, 1949
Colorado Springs.....	100	Nov. 1949	<b>OKLAHOMA</b>		
<b>FLORIDA</b>			Seminole.....	100	May 5, 1948
Panama City.....	100	Sept. 18, 1948	Sulphur.....	100	July 30, 1948
<b>GEORGIA</b>			<b>TENNESSEE</b>		
Atlanta.....	100	Apr. 24, 1948	Bristol.....	100	Nov. 4, 1949
Columbus.....	100	Oct. 27, 1949	Chattanooga.....	100	Oct. 26, 1949
Cordele.....	100	Sept. 8, 1949	Clinton.....	100	May 25, 1948
Quitman.....	100	Aug. 25, 1949	Erwin.....	100	Feb. 17, 1949
West Point.....	100	Mar. 29, 1949	Fayetteville.....	100	May 10, 1949
<b>IDAHO</b>			Greenville.....	100	Oct. 7, 1949
Bonniers Ferry.....	100	May 14, 1949	Kingsport.....	100	Sept. 23, 1949
Caldwell.....	100	Apr. 14, 1949	Knoxville.....	100	Do.
Idaho Falls.....	100	Aug. 24, 1949	Maryville-Alcoa.....	100	Aug. 31, 1948
Preston.....	100	Nov. 16, 1948	Morristown.....	100	Oct. 13, 1949
Sandpoint.....	100	May 14, 1949	Shelbyville.....	100	June 13, 1949
<b>ILLINOIS</b>			<b>TEXAS</b>		
Champaign-Urbana.....	100	Aug. 18, 1948	Galveston.....	100	Apr. 18, 1949
Chicago.....	100	Oct. 28, 1949	Gladewater.....	100	July 25, 1949
Elgin.....	100	Dec. 8, 1949	Houston.....	100	Dec. 3, 1948
Glencoe.....	100	Nov. 7, 1949	Kilgore.....	100	July 25, 1949
Highland Park.....	100	Do.	Lufkin.....	100	Apr. 12, 1949
Kenilworth.....	100	Do.	Pampa.....	100	May 24, 1948
Lake Bluff.....	100	Do.	San Antonio.....	100	June 21, 1948
Lake Forest.....	100	Do.	Texarkana.....	100	Mar. 30, 1949
Northfield.....	100	Do.	Texas City.....	100	Apr. 25, 1949
Oak Park.....	100	Sept. 1949	Tyler.....	100	Mar. 31, 1948
Skokie.....	100	Nov. 7, 1949	<b>UTAH</b>		
Waukegan.....	100	Nov. 2, 1949	Ogden.....	100	June 1, 1949
Winnetka.....	100	Nov. 7, 1949	Provo.....	100	Apr. 29, 1949
<b>INDIANA</b>			Salt Lake City.....	100	May 27, 1949
Indianapolis.....	100	July 1948	<b>VIRGINIA</b>		
Salem.....	100	Apr. 9, 1948	Bristol.....	100	Nov. 4, 1949
South Bend.....	100	Nov. 1948	Richmond.....	100	May 1948
			Suffolk.....	100	Apr. 1948



# **Communities Awarded Milk Sanitation Ratings of 90 Percent or More, 1948-49—Continued**

Community	Percent of milk pas- teur- ized	Date of rating	Community	Percent of milk pas- teur- ized	Date of rating
<b>BOTH RAW AND PASTEURIZED MARKET MILK</b>					
<b>GEORGIA</b>			<b>OREGON</b>		
La Grange .....	76.2	Mar. 29, 1949	Portland .....	99.2	May 24, 1949
Macon .....	97.1	Sept. 13, 1949	<b>TENNESSEE</b>		
Thomasville .....	81.5	July 28, 1948	Elizabethton .....	99	May 24, 1948
Tifton .....	92	Apr. 15, 1948	Murfreesboro .....	98	July 27, 1949
<b>IDAHO</b>			Pulaski .....	91.6	May 6, 1949
Boise .....	99.3	Apr. 30, 1949	<b>TEXAS</b>		
Payette .....	72	Apr. 14, 1949	Bryan .....	98.8	Feb. 12, 1949
Weiser .....	92.1	Apr. 13, 1949	Fort Worth .....	99.9	Mar. 9, 1948
<b>NORTH CAROLINA</b>			Longview .....	99	July 27, 1949
Avery County .....	73	July 12, 1949	Lubbock .....	98.2	July 15, 1949
<b>OKLAHOMA</b>			Palestine .....	79.8	Apr. 28, 1949
Lawton .....	92.3	June 30, 1948	Paris .....	91.8	Dec. 13, 1949
Muskogee .....	88	Apr. 2, 1948	Wichita Falls .....	99	Mar. 29, 1948
Shawnee .....	96	June 3, 1948	<b>VIRGINIA</b>		
			Emporia .....	26	Jan. 1948

NOTE 1. In these communities the pasteurized market milk shows a 90 percent or more compliance with the grade A pasteurized milk requirements, and the raw market milk shows a 90 percent or more compliance with the grade A raw milk requirement of the Public Health Service Milk Ordinance and Code.

Note particularly the percentage of milk pasteurized in the various communities listed. This percentage is an important factor to consider in estimating the safety of a city's milk supply. All milk should be pasteurized or boiled, either commercially or at home, before it is consumed. See text for home method.

NOTE 2. In the preceding 90 percent list published in PUBLIC HEALTH REPORTS, AUG. 12, 1949, East Peoria was erroneously included in place of East St. Louis, Ill. The latter is not shown in the present list because the rating is now more than 2 years old.

water in the bottom of a double boiler has been brought to a vigorous boil, place the inner container with milk in the outer container, cover it, and continue to apply the same heat for 10 minutes; or (2) heat the milk in an open saucepan over a hot flame to 165° F., stirring constantly, then immediately place the vessel in cold water and continue stirring until cool, changing the water when it warms up; however, if a dependable thermometer is not available, bring the milk to a boil instead. Method 1 produces a cooked flavor, while method 2 is not quite as safe as method 1.

The milk ordinance recommended by the Public Health Service is now in effect statewide in 10 States, as well as in 214 counties and 1,209 municipalities located in 39 States. It has been adopted as a regulation by 32 States and Territories.

The primary reason for publishing the rating lists is to encourage these communities to attain and maintain a high level of excellence in the enforcement of the ordinance. No comparison with communities operating under other milk ordinances is intended or implied. Some communities which have high-grade milk supplies are not included because arrangements have not been made for the determi-

nation of their ratings by the State milk-sanitation authority. In other cases the ratings which have been submitted are now more than 2 years old and have therefore lapsed. In still other communities with high-grade milk supplies there seems, in the opinion of the community, to be no local necessity nor desire for rating or inclusion in the list.

The rules under which a community is included in this list are as follows:

1. All ratings must be determined by the State milk-sanitation authority in accordance with the Public Health Service rating method<sup>1</sup> based upon the grade A pasteurized milk and the grade A raw milk requirements of the Public Health Service Milk Ordinance and Code. A recent departure from the method described consists of computing the pasteurized milk rating by weighting the plant rating twice as much as the rating of the raw milk for pasteurization.

2. No community will be included in the list unless both its pasteurized milk and its raw milk ratings are 90 percent or more. Communities in which only raw milk is sold will be included if the raw milk rating is 90 percent or more.

3. The rating used will be the latest rating submitted to the Public Health Service, but no rating will be used which is more than 2 years old. In order to promote continuous rigid enforcement rather than occasional "clean-up campaigns" it is suggested that when the rating of a community on the list falls below 90 percent no resurvey be made for at least 6 months, resulting in removal from the next semiannual list.

4. The Public Health Service will make occasional check surveys of cities for which ratings of 90 percent or more have been reported by the State. If such check rating is less than 90 percent but not less than 85, the city will be removed from the 90 percent list after 6 months unless a resurvey submitted by the State during this probationary interim shows a rating of 90 percent or more. If, however, such check rating is less than 85 percent, the city will be removed from the list immediately. If the check rating is 90 percent or more, the city will be retained on the list for a period of 2 years from the date of the check survey unless a subsequent rating submitted during this period warrants its removal.

Communities which are now on the list should not permit their ratings to lapse, as ratings more than 2 years old cannot be used.

State milk-sanitation authorities who are not now equipped to determine municipal ratings are urged, in fairness to their communities, to equip themselves as soon as possible. The personnel required is small; in most States one milk specialist is sufficient for this work.

<sup>1</sup> Pub. Health Rep. 53: 1386 (1938). Reprint No. 1970.

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### **CDC Laboratory Courses Revised**

The 1950 schedule of public health laboratory courses given by the Communicable Disease Center has been revised as follows:

An additional 1-week course in laboratory diagnosis of enteric diseases, introductory enteric bacteriology, will be given March 20-24.

An additional 2-week course in laboratory diagnosis of tuberculosis will be given December 4-15.

The previously announced 3-week course in the laboratory diagnosis of tuberculosis will be given August 21-September 7, instead of the dates shown on the course announcement on page 41 of the Bulletin of Public Health Laboratory Courses.

An additional 1-week course in serological diagnosis of rickettsial diseases will be given November 6-10.

Information and application forms should be requested from the Chief, Laboratory Services, Communicable Disease Center, Public Health Service, Chamblee, Georgia.

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# INCIDENCE OF DISEASE

*No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring*

## UNITED STATES

### REPORTS FROM STATES FOR WEEK ENDED JANUARY 21, 1950

For the current week, the health of the Nation was good as reflected by reported cases of major communicable diseases. Decreases are noted in diphtheria (from 205 to 149), measles (from 4,946 to 4,329), and poliomyelitis (from 123 to 117). Increases are noted in pneumonia (from 2,262 to 2,274), influenza (from 4,325 to 4,563), meningococcal meningitis (from 94 to 106), scarlet fever (from 1,425 to 1,649) typhoid and paratyphoid fever (from 38 to 43), whooping cough (from 2,159 to 2,192), infectious encephalitis (from 9 to 13), and tularemia (from 27 to 32).

Michigan reported a decrease in cases of measles from the preceding week (from 1,336 to 910). Increases in reported cases of measles are noted in New York (from 258 to 329), West Virginia (from 91 to 185), and Delaware (from 24 to 115).

Influenza reported cases increased from 389 to 558 in Virginia and from 8 to 65 in Idaho. Hawaii reported 414 cases of influenza. California reported an increase in scarlet fever from 79 cases last week to 138 for the current week.

Increases in whooping cough are noted in Arkansas (from 5 to 49) and Texas (from 84 to 128).

One case of smallpox was reported in each of three States, Nebraska, New Mexico and Colorado. Tennessee reported one case of rabies in man.

Of 46 States and the District of Columbia reporting on rabies in animals, for 23 and the District of Columbia, there were no cases. The remaining 23 States reported 135 cases with the largest numbers in Texas (23), Kentucky (17), New York, Ohio, and Indiana (with 14 cases each).

A total of 9,493 deaths was recorded during the week in 93 large cities in the United States, as compared with 9,842 last week; 9,832 and 10,231, respectively, the corresponding weeks of 1949 and 1948; and 9,949 for the 3-year (1947-49) median. For the year to date the total is 28,996 as compared with 30,388 for the same period last year. Infant deaths for the current week totaled 597; for last week 603; for the corresponding week last year 679; and for the 3-year median, 723. The cumulative figure is 1,847 as compared with 2,091 for the same period last year.

*Telegraphic case reports from State health officers for week ended January 21, 1950*

[Leaders indicate that no cases were reported]

Division and State	Diphtheria	Encephalitis, infectious	Influenza	Measles	Meningitis, meningococcal	Pneumonia	Polio-myelitis	Rocky Mt. spotted fever	Scarlet fever	Small-pox	Tularemia	Typhoid and paratyphoid fever	Whooping cough	Rabies in animals
<b>NEW ENGLAND</b>														
Maine.....				41	1	5			11				29	
New Hampshire.....						2			2				6	
Vermont.....				5					6				26	
Massachusetts.....	5			74	2				94			1	112	
Rhode Island.....			1	2	1	2			10				10	
Connecticut.....				24		48	1		17				116	
<b>MIDDLE ATLANTIC</b>														
New York.....	18	1	11	329	6	313	5		* 113				241	14
New Jersey.....				439	2	113	1		33				176	
Pennsylvania.....	5			136	6	102	3		120				202	2
<b>EAST NORTH CENTRAL</b>														
Ohio.....	6		1	92	6	47	1		195				147	14
Indiana.....	3		20	34		9	3		41				8	14
Illinois.....	2	2	2	90	6	82	7		53		1		81	1
Michigan.....				910	6	46	10		145		7		220	3
Wisconsin.....			25	164	3	17	1		87				91	1
<b>WEST NORTH CENTRAL</b>														
Minnesota.....	2			48	1	10	3		21				24	
Iowa.....	1			172	1	3	5		19				5	3
Missouri.....	6		4	2	2	21	2		6				16	
North Dakota.....	1			39			1		2			1	1	
South Dakota.....		1		9		2			7				5	
Nebraska.....	2		51	85	1		3		26	1			10	
Kansas.....		1	2	11		25			38		2		11	
<b>SOUTH ATLANTIC</b>														
Delaware.....				115					4				1	
Maryland.....	8			47		33	1		21		1		77	
District of Columbia.....				42	1	16			4				4	
Virginia.....	2		558	16		126	1		20		2	1	12	2
West Virginia.....	2		29	185	6	19			27		2		33	8
North Carolina.....	4			128	2		1		68		1		59	
South Carolina.....	3		43	176	3	8	1		2				2	4
Florida.....	3		314	17	1	17	1		16		4		1	
Georgia.....	6		15	7	1	21	1		5			2	4	5

**EAST SOUTH CENTRAL**

Kentucky.....





## FOREIGN REPORTS

### CANADA

*Provinces—Notifiable diseases—Week ended December 31, 1949—*  
During the week ended December 31, 1949, cases of certain notifiable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	New-found-land	Prince Edward Island	Nova Scotia	New-Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Chickenpox			17		118	385	56	46	61	42	725
Diphtheria					2	3			1		6
Dysentery, bacillary					2	1				10	13
German measles			3		1	64		4	76	10	158
Influenza			6				5				11
Measles			27	19	149	602	90	87	64	121	1,159
Meningitis, meningococcal			1								1
Mumps			18		2	522	2	13	33	73	663
Poliomyelitis					1	1	1		1		4
Scarlet fever	9			4	45	57	12	2	55	6	190
Tuberculosis (all forms)	6		2	7	55	19	29	7	19	40	184
Typhoid and paratyphoid fever						1					1
Undulant fever					1	1	2				4
Venereal diseases:											
Gonorrhea	4		7	19	49	51	25	8	28	74	265
Syphilis	3		1	11	39	18	10	2	2	9	95
Other forms										1	1
Whooping cough			2		23	41	1			10	77

### NORWAY

*Notifiable diseases—October 1949.*—During the month of October 1949, cases of certain notifiable diseases were reported in Norway as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis	5	Mumps	159
Diphtheria	17	Paratyphoid fever	3
Encephalitis, epidemic	8	Pneumonia (all forms)	2,289
Erysipelas	412	Poliomyelitis	20
Gastroenteritis	2,852	Rheumatic fever	87
Gonorrhea	293	Scabies	1,956
Hepatitis, epidemic	107	Scarlet fever	420
Impetigo contagiosa	2,945	Syphilis	89
Influenza	2,844	Tuberculosis (all forms)	394
Laryngitis	11,083	Typhoid fever	2
Malaria	1	Well's disease	6
Measles	1,120	Whooping cough	5,386



## SWITZERLAND

*Notifiable diseases—July–September 1949.*—During the months of July, August, and September 1949, cases of certain notifiable diseases were reported in Switzerland as follows:

Disease	July	August	September
Cerebrospinal meningitis.....	6	5	6
Chickenpox.....	169	150	158
Diphtheria.....	72	110	90
Dysentery.....		5	19
Hepatitis, epidemic.....	38	43	52
Influenza.....		2	3
Measles.....	554	252	246
Mumps.....	130	151	177
Paratyphoid fever.....	9	26	15
Poliomyelitis.....	49	113	164
Scarlet fever.....	339	417	434
Tuberculosis.....	316	315	222
Typhoid fever.....	6	19	11
Undulant fever.....	14	18	13
Whooping cough.....	431	405	281

## REPORTS OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER RECEIVED DURING THE CURRENT WEEK

*Note.*—The following reports include only items of unusual incidence or of special interest and the occurrence of these diseases, except yellow fever, in localities which had not recently reported cases. All reports of yellow fever are published currently.

A table showing the accumulated figures for these diseases for the year to date is published in the PUBLIC HEALTH REPORTS for the last Friday in each month.

### Cholera

*India—Calcutta and Negapatam*—During the week ended January 7, 1950, 44 cases of cholera, with 18 deaths were reported in Calcutta, and 5 cases with 3 deaths were reported in Negapatam.

### Plague

*Ecuador—Loja Province*—During the month of December 1949, 6 cases of plague, one fatal, were reported at Sozoranga, Macara County, and one case was reported at Paltaguayco, Celica County.

### Smallpox

*Burma*—During the week ended January 7, 1950, 89 cases of smallpox, with 29 deaths were reported in Burma.

*India—Calcutta—Cawnpore*—During the week ended January 14, 1950, 127 cases of smallpox were reported in Calcutta. This city was reported to be infected with smallpox in epidemic form on January 7. During the week ended January 7, 46 cases of smallpox, with 10 deaths were reported in Cawnpore.

*Mexico—Jalisco*—On January 24, 1950, an outbreak of black smallpox was reported in Jalisco. Six cases were confirmed in Jamay and Valle de Juarez by the Public Health office. It is believed to be

serious in the neighboring state of Michoacan and measures have been taken to prevent the spread of this epidemic.

*Arabia—Jedda and Mecca*—During the week ended January 7, 1950, 61 cases of smallpox were recorded in Jedda, and 4 fatal cases were reported in Mecca.

#### Yellow Fever

*Africa—Sierra Leone*—On December 13, 1949, one case of yellow fever was reported in Koinadugu District and confirmed by laboratory test. This case was reported earlier as suspected.

### DEATHS DURING WEEK ENDED JAN. 21, 1950

	Week ended Jan. 21, 1950	Correspond- ing week, 1949
Data for 93 large cities of the United States:		
Total deaths.....	9,493	9,832
Median for 3 prior years.....	9,949	
Total deaths, first 3 weeks of year.....	28,996	30,388
Deaths under 1 year of age.....	597	679
Median for 3 prior years.....	723	
Deaths under 1 year of age, first 3 weeks of year.....	1,847	2,091
Data from industrial insurance companies:		
Policies in force.....	69,826,193	70,650,802
Number of death claims.....	14,640	13,338
Death claims per 1,000 policies in force, annual rate.....	10.9	9.8
Death claims per 1,000 policies, first 3 weeks of year, annual rate.....	9.7	9.4

### Correction

In the article "Studies of the Action of Sodium Fluoride on Human Enamel by Electron Microscopy and Electron Diffraction," published in the January 13, 1950, issue of the Public Health Reports, the legend accompanying the illustration, figure 13 on page 54, will be correct if the figure is transposed. Due to a typographical error, the illustration was inserted incorrectly.

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